

**PCN31**  
**COST OF CARE FOR MEDICARE PATIENTS DIAGNOSED WITH METASTATIC BREAST CANCER WHO RECEIVED TRASTUZUMAB**Doan J<sup>1</sup>, Griffiths R<sup>1</sup>, Lalla D<sup>1</sup>, Herbert R<sup>2</sup>, Brammer M<sup>1</sup>, Danese MD<sup>2</sup><sup>1</sup>Genentech, Inc., South San Francisco, CA, USA, <sup>2</sup>Outcomes Insights, Inc, Newbury Park, CA, USA

**OBJECTIVES:** Trastuzumab (Herceptin) was approved in 1998 for treating patients with metastatic breast cancer. However, there is little information on the cost of care in these patients. The following abstract quantifies the costs for these patients. **METHODS:** We used SEER-Medicare data to identify inpatient, outpatient, and total costs, in women diagnosed with metastatic breast cancer- Stage IV (S-IV) or Stage 0-III with distant recurrence (S-DR) who received trastuzumab. An index date was defined as either the date of diagnosis (S-IV) or of first distant recurrence (S-DR). Included patients were diagnosed in 2000–2002, and had their first claim for trastuzumab between their index date and December 31, 2005, the end of the observation period. Patients were divided into those who received trastuzumab as part of their first treatment following their index date (Group A), and those who began trastuzumab after at least one course of chemotherapy (Group B). Monthly inpatient, outpatient, and total Medicare costs were calculated and adjusted to 2008 dollars using the Medicare component of the CPI. **RESULTS:** A total of 281 patients met the inclusion criteria, of whom 100 (36%) were diagnosed as stage IV at index (N = 181 for stage 0-III with distant recurrence) and 191 patients received trastuzumab as part of initial treatment. For the group in general, the average total monthly cost was \$6104– 29% due to inpatient costs (\$1744). In bivariate analysis, the average cost for S-IV patients (\$6762) was significantly higher (p = 0.03) than for S-DR patients (\$5740), largely due to inpatient costs (\$2253 versus \$1463). The average monthly cost of care was significantly higher (p = 0.004) in Group A (\$6538) than Group B (\$5168). These differences persisted in multivariate analyses. **CONCLUSIONS:** Medicare costs are greater among women initially diagnosed with Stage IV breast cancer, compared to those diagnosed with Stage 0-III disease who have a distant recurrence.

**PCN32**  
**ECONOMIC EVALUATION OF SUNITINIB, SORAFENIB, BEVACIZUMAB/ INTERFERON ALPHA AND TEMSIROLIMUS IN FIRST LINE TREATMENT OF METASTATIC RENAL CELL CARCINOMA IN ISRAEL**

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**OBJECTIVES:** Metastatic renal cell carcinoma (mRCC) is highly resistant to chemotherapeutics, rendering limited anti-tumor effect. New treatments such as Sunitinib, Sorafenib, Bevacizumab/Interferon-alpha (INF-alpha), and Temsirolimus have been recently licensed for first-line treatment of patients with mRCC. We assessed the cost-effectiveness of these therapies from the perspective of the Israeli health care payer. **METHODS:** We used a Markov model with a 10-year time horizon to simulate disease progression, survival, and cost outcomes for a hypothetical cohort of mRCC patients. Although no head-to-head trials comparing the new treatment modalities are available, most studies had compared the new therapies against INF-alpha, thus allowing an indirect comparison of clinical efficacy. Utility weights were estimated from Sunitinib clinical trials using the EQ-5D. Drug and other health care costs were estimated from nationally published sources, and reported in 2008 New Israeli Shekels (NIS). Treatment effectiveness was measured in QALYs gained. Costs and benefits were discounted annually at 3%. We used a series of univariate and probabilistic sensitivity analyses to test the robustness of our base-case findings. **RESULTS:** Sunitinib was the most effective intervention and resulted in a gain of 0.27 QALYs compared with Sorafenib and 0.08 QALYs gained compared with Bevacizumab/INF-alpha or Temsirolimus. The total discounted drug cost for treating mRCC patients was 277,184 NIS for Sorafenib, 380,749 NIS for Temsirolimus, 343,712 NIS for Sunitinib, and 420,987 NIS for Bevacizumab/INF-alpha. Treating patients with Sunitinib resulted in an ICER of 245,869 NIS (~\$60,000) per QALY gained when compared with Sorafenib, and was the dominant intervention compared to the other treatment modalities. The model results were robust to changes in a wide range of model parameters, including treatment efficacy and follow-up treatment costs. **CONCLUSIONS:** Our model indicates that Sunitinib is a cost-saving alternative, when compared with Bevacizumab/INF-alpha, and Temsirolimus and is within the accepted threshold for cost-effective interventions when compared with Sorafenib.

**PCN33**  
**COST-EFFECTIVENESS ANALYSIS OF SORAFENIB ASSOCIATED TO BEST SUPPORTIVE CARE (BSC) VERSUS BEST SUPPORTIVE CARE ALONE IN THE SECOND LINE TREATMENT OF ADVANCED RENAL CELL CARCINOMA UNDER THE BRAZILIAN PUBLIC HEALTH CARE SYSTEM PERSPECTIVE**Teich V<sup>1</sup>, Fernandes RA<sup>1</sup>, Schiela A<sup>2</sup><sup>1</sup>MedInsight, Rio de Janeiro, Brazil, <sup>2</sup>Bayer Schering Pharma Brazil, São Paulo, Brazil

**OBJECTIVES:** The objective of the study was to develop a cost-effectiveness analysis of sorafenib associated to BSC versus BSC alone in the second line treatment of advanced renal cell carcinoma (RCC) under the Brazilian public health care system perspective. **METHODS:** A Markov model was developed to project the lifetime costs and outcomes associated with the disease progression of patients receiving sorafenib/ BSC or BSC alone. The cycle duration was three months and the corresponding transition probabilities were obtained from the TARGET study. The model considered three health states: progression free survival, disease progression and death. The outcomes were expressed as life years gained. Only direct medical costs were considered in the

analysis, including drugs, physician visits, monitoring and treatment of adverse events. Unit costs for drugs were obtained from the Brazilian Health Prices Database (BPS) and procedure costs were extracted from the National Database of Ambulatory Costs (SIA/DATASUS). Costs and outcomes were discounted at an annual 5% discount rate. Main parameters were evaluated in a sensitivity analysis. **RESULTS:** In a lifetime horizon, total costs per patient were R\$48,285 for sorafenib/BSC and R\$7,356 for BSC alone. Mean progression free survival for patients treated with both alternatives were 2066 years and 1243 years, respectively, resulting in an incremental cost-effectiveness ratio of R\$49,751 (US\$21,553) per life year gained. Varying the time horizon of the analysis increased the ICER for values above R\$70,000 in time horizons below 5 years. Varying the discount rate between 0% and 10% led to ICERs between R\$46,589 and R\$61,302, respectively. **CONCLUSIONS:** There's no defined threshold for the accepted ICER in Brazil. Considering international standards, the incremental cost-effectiveness ratio would be around 3 times the Brazilian per capita Gross Domestic Product. Therefore, sorafenib/BSC appears to be cost-effective in the management of advanced RCC.

**PCN34**  
**ECONOMIC EVALUATION OF TEMOZOLOMIDE FOR THE TREATMENT OF NEWLY DIAGNOSED GLIOBLASTOMA MULTIFORME IN MEXICO**Rely K<sup>1</sup>, Salinas EG<sup>2</sup>, Pierre KA<sup>3</sup><sup>1</sup>Network on the Economic Evaluation of Healthcare Programmes and its Applications to Decision Making in Latin American Countries, Mexico, DF, Mexico, <sup>2</sup>Hospital Infantil de México Federico Gómez, Mexico, DF, Mexico, <sup>3</sup>Johns Hopkins University, Bloomberg School of Public Health, Baltimore, MD, MD, USA

**OBJECTIVES:** To analyze the cost-effectiveness of temozolomide in the treatment of newly diagnosed glioblastoma multiforme versus radiotherapy alone from the Mexican health care perspective. **METHODS:** A cost-effectiveness analysis was performed based on a Markov model, with three health states: initial, disease progression and death. This model allowed us to compare the expected outcomes and costs associated with temozolomide compared with radiotherapy alone for a synthetic cohort of patients aged ≥55 years over a 5-year period. The model cycles every six months and continues until all patients die. The probabilities of transition between health states were obtained from the literature. Costs were expressed in 2008 US dollar. Outcome estimates included the incremental cost-effectiveness ratio (ICER) and cost per life-year (LY) gained. Costs and health outcomes were discounted at 5%. Second-order Monte Carlo simulations were undertaken in which values were randomly drawn from distributions of these parameters. **RESULTS:** The accumulated discounted effect is 1.03 LY per patient receiving temozolomide compared to 0.93 LY for radiotherapy alone. Total lifetime medical cost was US\$31,698 for temozolomide vs US\$30,715 for radiotherapy alone. The incremental cost-effectiveness of temozolomide was US\$983 per life year gained. There is a 70% probability that temozolomide is cost-effective at a US\$10,000 per life-year saved threshold and a slightly more than 95% probability of being cost-effective at a US\$18,000 per life-year saved threshold. **CONCLUSIONS:** Results from these analyses suggest that in the Mexican setting, use of temozolomide in place of radiotherapy alone for treatment of glioblastoma multiforme is likely to be cost saving. These conclusions are supported by the use of conservative assumptions and sensitivity analyses.

**PCN35**  
**COST-EFFECTIVENESS OF HUMAN PAPILLOMAVIRUS VACCINE IN COLOMBIA IN 2007**de La Hoz F<sup>1</sup>, Alvis N<sup>2</sup>, Narváez J<sup>1</sup>, Gamboa O<sup>3</sup>, Chocontá A<sup>1</sup><sup>1</sup>Universidad Nacional de Colombia, Bogotá D.C., Colombia, <sup>2</sup>Universidad de Cartagena, Cartagena, Colombia, <sup>3</sup>Instituto Nacional de Cancerología, Bogotá D.C., Colombia

**OBJECTIVES:** To estimate the disease burden of human papillomavirus (HPV) related cancers and preneoplastic lesions in Colombia, and the cost-effectiveness of introduction of HPV vaccine. **METHODS:** A full economic evaluation was done regarding potential introduction of HPV vaccine. A Markov model that regards the natural history of disease was developed using software TreeAge Pro. The model allowed for evaluating four different alternatives: 1) no intervention; 2) current Colombian screening program alone; 3) vaccination alone; and 4) combination of both. A systematic review was done to identify incidence, prevalence, mortality, and probability of progression/regression of cervical cancer, preneoplastic lesions, and vulva, anus, penis, and oropharynx cancer in Colombia. Other government and institutional databases were used to complement and validate these estimators. A similar procedure was performed to identify the cost of attending these diseases, the frequency of use of related services and the efficacy of vaccine. All costs were assessed in international dollars of 2005 (\$I). **RESULTS:** The burden of cervical cancer in 2007 was estimated in 54,884 DALYs, that were assumed attributable to HPV. Other HPV-related cancers accounted for 6346 YLL, and 1439 were considered attributable to HPV. At a cost per vaccinated woman (CpW) – three doses plus administrative costs- ranging from \$I25 to \$I75, strategy 2 was dominated by Strategies 3 and 4. Considering a life-time horizon, the incremental cost-effectiveness ratio of Intervention 4 over Intervention 3 was \$I1,895, \$I6,800 and \$I11,000 at a CpW of \$I150, \$I300 and \$I420, respectively. At CpW lesser than \$I75, the Strategy 3 was dominated. **CONCLUSIONS:** The sensibility analysis showed that CpW is by far the most important variable for the model. At CpW lesser than \$I300, strategy 4 could be cost-effective. In that case, budgetary impact should be analyzed. In Colombia, the cost of current screening program is very expensive, and alternative programs should be considered.